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23
Rev. of 1/11/97
Assignee
JAN 15 2001

PTO/SB/81 (10-00)
Approved for use through 10/31/2002. OMB 0651-0085
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it display a valid OMB control number.

**POWER OF ATTORNEY OR
AUTHORIZATION OF AGENT**

Application Number	08/949,988
Filing Date	October 14, 1997
First Named Inventor	Kar W. Yung
Group Art Unit	3644
Examiner Name	Tien Dinh
Attorney Docket Number	BD-96315

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I hereby appoint:

☐ Practitioners at Customer Number Place Customer Number Bar Code Label here

☒ Practitioner(s) named below:

Name	Registration Number
Vijayalakshmi D. Duraiswamy	31,505
Michael W. Sales	30,213

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please change the correspondence address for the above-identified application to:

☐ The above-mentioned Customer Number.

OR

<input checked="" type="checkbox"/> Firm or <input type="checkbox"/> Individual Name	Hughes Electronics Corporation				
Address	Patent Docket Administration, Bldg. 001, M.S. A109				
Address	P. O. Box 956				
City	El Segundo	State	CA	Zip	90245-0956
Country	U.S.A.				
Telephone	310-662-9919	Fax			

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

SIGNATURE of Applicant or Assignee of Record

Name	Michael W. Sales
Signature	
Date	January 31, 2001

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

*Total of _____ forms are submitted.

Please type a plus sign (+) inside this box → 

PTO/SB/82 (10-00)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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REVOCATION OF POWER OF ATTORNEY OR AUTHORIZATION OF AGENT

Application Number	08/949,988
Filing Date	October 14, 1997
First Named Inventor	Kar W. Yung
Group Art Unit	3644
Examiner Name	Tien Dinh
Attorney Docket Number	PD-96315

I hereby revoke all previous powers of attorney or authorizations of agent given in the above-identified application:

☒ A Power of Attorney or Authorization of Agent is submitted herewith.

OR

☐ Please change the correspondence address for the above-identified application to: TO 3600 MAIL ROOM

☐ Customer Number

Place Customer
Number Bar Code
Label here

OR

☐ Firm or
Individual Name

Address

Address

City

Country

State

ZIP

Telephone

Fax

I am the:

☐ Applicant/Inventor.

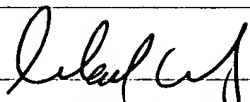
☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Name

Michael W. Sales

Signature



Date

January 31, 2001

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

*Total of forms are submitted.

Burden Hour Statement: This form is estimated to take 3 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Kar W. Yung and Donald C. D. Chang
Application No./Patent No.: 08/949,988 Filed/Issue Date: October 14, 1997
METHOD AND SYSTEM FOR MAXIMIZING SATELLITE CONSTELLATION COVERAGE
Entitled: Hughes Electronics Corporation, a Corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

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JAN 15 2001

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states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.
The extent (by, percentage) of its ownership interest is _____ %

in the patent application/patent identified above by virtue of either:

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: Kar W. Yung and Donald C. D. Chang To: HE Holdings DBA Hughes Electronics
The document was recorded in the United States Patent and Trademark Office at Reel 8775, Frame 0135, or for which a copy thereof is attached.
2. From: HE Holdings dba Hughes Electronics To: Hughes Electronics Corporation
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☒ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

January 31, 2001

Date

Michael W. Sales

Typed or printed name

Signature

Assistant Secretary

Title

RECORDATION FORM COVER SHEET
PATENTS ONLY

PD-96315

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

HE Holdings, Inc. dba Hughes Electronics

Additional Name(s) of conveying party(ies) attached?

Yes ☐

no ☒

2. Name and address of receiving party(ies):

Name: HUGHES ELECTRONICS CORPORATION

Internal Address: Bldg. 001 M/S A109
P.O. Box 956
200 N. Sepulveda Blvd.
El Segundo, CA 90245-0956

3. Nature of Conveyance:

☒ Assignment

☐ Merger

☐ Security Agreement

☐ Change of Name

☐ Other

Execution Date: January 31, 2001 and February 12, 2001

Street Address: 200 N. Sepulveda Blvd.
P.O. Box 956
El Segundo, California 90245

Additional name(s) & address(es) attached? ☐ yes ☒ no

4. Application number(s) or patent number(s): Patent Application Serial No. 08/949,988, filed October 14, 1997
(Attorney Docket No. PD-96315)

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? ☐ yes ☒ no

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Patent Records Administration
Internal Address: HUGHES ELECTRONICS CORPORATION
Bldg. 001, M/S A109
P.O. Box 956
200 N. Sepulveda Boulevard
El Segundo, California 90245-0956

6. Total number of applications and patents involved: [1]

7. Total fee (37 CFR 3.41): \$40.00

☐ Enclosed

☒ Authorized to be charged to deposit account

8. Deposit account number:

50-0383

(Attached duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

V. D. Duraiswamy
Name of Person Signing

Vijayalakshmi D. Duraiswamy February 12, 2001
Signature Date
Pg. No. 31, 505

Total number of pages comprising cover sheet: [1]

COPY

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CONFIRMATION OF ASSIGNMENT OF PATENT APPLICATION

WHEREAS, HE Holdings, Inc. dba Hughes Electronics and formerly known as Hughes Aircraft Company, a corporation of the State of Delaware, United States of America ("Assignor"), having a principal place of business in Los Angeles, California was the sole and exclusive owner of all right, title and interest in and to the U. S. Patent Application Serial No.: 08/949,988, filed October 14, 1997, Title: METHOD AND SYSTEM FOR MAXIMIZING SATELLITE CONSTELLATION COVERAGE, ("Patent Application") pursuant to an Assignment by all of the the inventors Kar W. Yung and Donald C. D. Chang dated October 9, 1997 and recorded on October 14, 1997 on Reel/Frame 8775/0135 (3 pages); and

WHEREAS, Hughes Electronics Corporation, a corporation organized and existing under the laws of the State of Delaware, United States of America (Assignee), having a principal place of business in Los Angeles, California, was granted the right of ownership of the invention disclosure, patent application and patents resulting therefrom pursuant to an assignment dated as of December 15, 1997 (see "Exhibit A"); and

WHEREAS, Assignee is desirous of acquiring and/or confirming its ownership of all right, title and interest in and to the Patent Application due to its ownership of the disclosure;

NOW, THEREFORE, for good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, Assignor and Assignee agree as follows:

1. Assignor hereby confirms sale, assignment, transfer and conveyance to Assignee, of all right, title and interest in and to the Patent Application, including without limitation, the invention disclosures, any divisional, continuation and continuation-in-part applications that may be filed based on any such application; any patents issuing on any of the foregoing applications, and any reissues or certificates of reexamination of any of the foregoing patents, and any foreign counterparts of them; together with the right to sue for damages and other relief for past and current infringements.
2. Assignor further confirms the agreement to execute such additional documents as are necessary to continue, secure, defend, register and otherwise give full effect to and to perfect the rights of Assignee under the "Exhibit A" Assignment, including all documents necessary to register in the name of Assignee the assignment of each patent, patent application, and invention disclosure in the appropriate country or countries for the Patent Application.
3. Assignor hereby authorizes and requests that the Commissioner of Patents and Trademarks of the United States and each official holding a corresponding position of authority in any country in which Assignor has pending one or more patent applications to issue and to record the title of Assignee as owner of all right, title and interest in and to the patents, patent applications and invention disclosures for the Patent Application.

CONFIRMED:

COPY

HE Holdings, Inc. dba Hughes Electronics formerly known
as Hughes Aircraft Company ("Assignor")

By:

Name: Michael W. Sales

Execution Date:

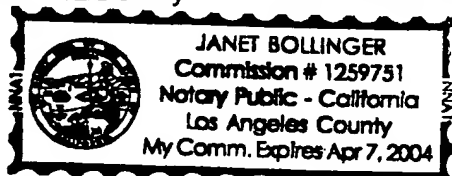
1/31/01

STATE OF California

COUNTY OF Los Angeles

ON January 31, 2001 before me, Janet Bollinger, a Notary Public
in and for said State, personally appeared Michael W. Sales, Attorney-in-Fact,
☒ personally known to me or ☐ proved to me on the basis of satisfactory evidence to be
the person(s) whose name(s) is/are subscribed to the within instrument and
acknowledged to me that he/she/they executed the same in his/her/their authorized
capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or
the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



Janet Bollinger
Notary Public

ACCEPTED:

HUGHES ELECTRONICS CORPORATION (Assignee)

By:

Name: Janet L. Williamson

STATE OF California

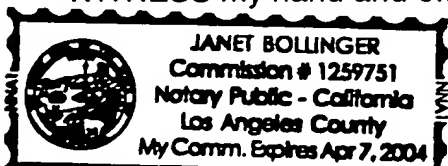
COUNTY OF Los Angeles

ON February 12, 2001 before me, Janet Bollinger, a Notary Public
in and for said State, personally appeared

Janet L. Williamson

☒ personally known to me or ☐ proved to me on the basis of satisfactory evidence to be
the person(s) whose name(s) is/are subscribed to the within instrument and
acknowledged to me that he/she/they executed the same in his/her/their authorized
capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or
the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



Janet Bollinger
Notary Public

ASSIGNMENT OF PATENTS

AND

RELATED INTELLECTUAL PROPERTY RIGHTS

FROM

HE HOLDINGS, INC. dba HUGHES ELECTRONICS

TO

HUGHES ELECTRONICS CORPORATION

This Assignment is effective the 15th day of December, 1997.

WHEREAS, HE Holdings, Inc., dba Hughes Electronics and formerly known as Hughes Aircraft Company (see Exhibit A), a corporation of the State of Delaware, United States of America ("Assignor"), having a principal place of business in Los Angeles, California, is the owner of the rights, title and interests in and to the invention disclosures, patent applications and United States patents, listed on Schedule A attached hereto; and

WHEREAS, Hughes Electronics Corporation, a corporation organized and existing under the laws of the State of Delaware, United States ("Assignee"), having a principal place of business at Los Angeles, California, in connection with a corporate reorganization involving Assignor and referred to as "Triple Play", is desirous of acquiring title and any existing rights which Assignor has or may have in the invention disclosures, patent applications, and issued patents which are a) listed on Schedule A or b) which originated in any business units of Assignee listed on Exhibit B during the period when such business units were or are business units of Assignor or which are owned by such business units, (all such invention disclosures, patent applications, and patents herein collectively referred to as "the Patents"), and any applications for patent, letters patent, reissues, reexaminations, divisions, parents, continuations, continuations-in-part, or extensions thereof which may have been or shall be granted thereon in the United States, and any foreign country throughout the world, as well as title and any existing rights to all trade secrets, copyrights, license agreements and other intellectual property rights relating to the technology described in the Patents ("Related Intellectual Property Rights");

COPY

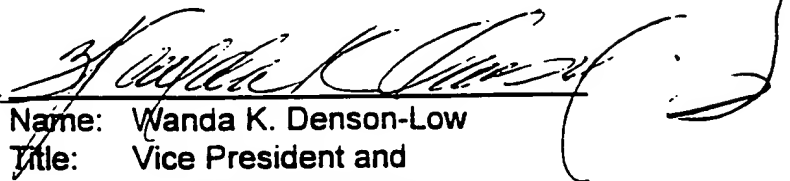
NOW, THEREFORE, to whom it may concern, be it known that pursuant to the obligations herein and good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, Assignor hereby assigns and transfers to Assignee all right, title and interest that it has and may have in said Patents and the inventions claimed therein, and the Related Intellectual Property Rights, to be held and enjoyed by the Assignee, its successors and assigns, as fully and as entirely as the same would have been held and enjoyed by Assignor had this assignment not been made, together with all present or future claims for profits, royalties, fees and/or damages by reason of past infringement or use of the Patents or Related Intellectual Property Rights by any party or parties, with the right to sue for and collect the same as Assignee sees fit.

Assignor, for itself and its assigns, successors in interest and legal representatives does hereby: authorize and request the Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all letters patents to Assignee, its successors, assigns or other legal representatives for the Patents; covenant that no assignment, sale, agreement, transfer or encumbrance will be made or entered into which would conflict with this Assignment; agree to communicate to Assignee its successors, assigns or other legal representatives, upon request, any facts known to Assignor respecting the Patents and Related Intellectual Property Rights; appoint Assignee its attorney in fact with respect to all matters, including claims and proceedings, relating to the Patents and Related Intellectual Property Rights; agree to do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that are deemed necessary or desirable by Assignee, its successors, assigns or representatives for protecting, obtaining, maintaining and enforcing any and all of said Patents and the Related Intellectual Property Rights in the United States and throughout the world and for perfecting, affirming, recording and maintaining the title in Assignee, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to the Patents and the Related Intellectual Property Rights.

COPY

ASSIGNOR:
HE HOLDINGS, INC., dba Hughes Electronics

By:


Name: Wanda K. Denson-Low
Title: Vice President and
Assistant Secretary

STATE OF California)

COUNTY OF Los Angeles)

SS:

On December 16, 1997 before
me, T. MONTGOMERY

a Notary Public in and for said State, personally appeared

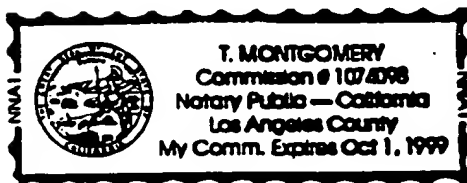
Wanda K. Denson-Low

☒ personally known to me or ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public





State of Delaware

Office of the Secretary of State

COPY

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "HUGHES AIRCRAFT COMPANY", CHANGING ITS NAME FROM "HUGHES AIRCRAFT COMPANY" TO "HE HOLDINGS, INC.", FILED IN THIS OFFICE ON THE SECOND DAY OF JANUARY, A.D. 1996, AT 9 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



Edward J. Freel, Secretary of State

0472015 8100

960000711

AUTHENTICATION:

7774686

DATE:

01-02-96

COPY

**CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
HUGHES AIRCRAFT COMPANY**

Hughes Aircraft Company, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify:

FIRST: That the sole stockholder of the Corporation did consent to and adopt the following resolution setting forth a proposed amendment to the Certificate of Incorporation of the Corporation:

RESOLVED, That Article 1 of the Certificate of Incorporation of this corporation is hereby amended to read as follows:

"1. The name of the corporation is HE Holdings, Inc."

SECOND: That this amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, said corporation has caused this certificate to be signed by its Chairman of the Board and attested by its Secretary this 8th day of December, 1995.

HUGHES AIRCRAFT COMPANY

By: *M. T. Smith*
M. T. Smith
Chairman of the Board.

Attest:

By: *R. M. Hall*
R. M. Hall
Secretary

AFTER INTERVAL SPIN OF TELECOM BUSINESS ("HNS")
WHOLLY OWNED SUBSIDIARIES, AFFILIATES, PARTNERSHIPS, INVESTMENTS (See Legend Below)

HUGHES ELECTRONICS CORPORATION
 Hughes Network Systems (a business unit)

.. designates first tier subsidiary
 .. designates second tier subsidiary
 .. designates third and fourth tier subsidiary

DIRECTV ENTERPRISES, INC.

- DIRECTV, Inc.
- DIRECTV Merchandising, Inc.
- DIRECTV Operations, Inc.

HUGHES TELECOMMUNICATIONS & SPACE COMPANY

- Hughes do Brasil - Elettronica e Comunicacoes Ltda.
- Hughes International de Mexico, S.A. de C.V.
- Hughes Space and Communications Company
- Hughes Space and Communications International Service Company
- Hughes Global Services, Inc.
- Hughes Space and Commur. International, Inc.
- P.T. Pasifik Satellite Nusantara (a)
- Spectrolab, Inc.
- Hughes Communications, Inc.
- DIRECTV International, Inc.
- California Broadcast Center LLC
- DTV One, Inc.
- DTV Two, Inc.
- DIRECTV Japan Kabushiki Kaisha(a)
- DIRECTV Latin America, Inc.
- Galaxy Entertainment de Venezuela, C.A. (a)
- Galaxy Latin America (p)
- Servicios Galaxy Sat III R, C.S. (a)
- Hughes Electronics Japan Kabushiki Kaisha
- Hughes Japan Broadcasting KK
- Kabushiki Kaisha DIRECTV
- SurfIn, Ltd. (a)
- Hughes Communications Galaxy, Inc.
- Hughes Communications Satellite Services, Inc.
- American Mobile Satellite Corporation (a)
- PanAmSat Corporation (a)
- ICO Global Communications (Holdings) Ltd (f)
- Ullstar Digital Television, Inc. (p)
- Medical Science Partners III (p)
- Technologies for Info. & Entertainment III, L.P. (p)

HUGHES NETWORK SYSTEMS

- First HNS Mauritius Ltd.
- Hughes Israel Limited (a)
- HNS-Charitel GP, Inc.
- HNS-India, Inc.
- HNS-India VSAT, Inc.
- HNS-Italia S.r.l.
- HNS-Shanghai, Inc.
- Hughes Electronics Foreign Sales Corporation
- Hughes Electronics International Corporation
- Hughes Electronics Systems International
- Hughes Records Communications Limited (a)
- Hughes-Kenwood RDSS Inc. (a)
- Hughes Network Systems France
- Hughes Network Systems International Service Company
- Hughes Network Systems Limited
- Hughes Olivetti Telekom GmbH
- Hughes Olivetti Telecom, N.V.
- Hughes Olivetti Telecom, Ltd. (a)
- Hughes Software Systems Private Ltd
- Hughes Express, Inc.
- Shanghai Hughes Network Systems (a)
- Veritel (p)
- Hughes International de Mexico, S.A. de C.V.
- OWNED BY AND REPORTS TO HTS)
- HNS de Mexico, S.A. de C.V.
- Satellion S.A. de CV (a)

OTHER SUBSIDIARIES

- First Portland Technology Corp (f)
- FLIT Systems, Inc. (a)
- Hughes Aircraft Holdings Canada Ltd
- Hughes-Avicom International, Inc.
- Hughes Electronics Manufacturing Company
- Avicom International S.A.
- Hughes Electronics Realty, Inc.
- Hughes Foreign Sales Corporation
- Hughes International Sales Corporation
- Hughes International Sales Corporation No. 2
- Hughes Investment Management Company
- Hughes Research Laboratories LLC (50% - a)
- Hughes Research Analytics, Inc.
- Hughes-Pareto Research Partnership (p)
- L-T Ranches, Inc.
- MDP, Ltd.
- XMC Holdings, Ltd.
- Nippon Avionics Co., Ltd (a)

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LEGEND

- (a) Affiliate (less than wholly owned)
- (p) Joint Venture Partnerships
- (f) Investment (no direct management involvement & less than 10% ownership)

COPY

**SCHEDULE A
OF
ASSIGNMENT OF PATENTS AND RELATED INTELLECTUAL
PROPERTY RIGHTS
FROM
HE HOLDINGS, INC. dba HUGHES ELECTRONICS
TO
HUGHES ELECTRONICS CORPORATION**

PATENT APPLICATIONS

PD NO.	FILING DATE	SERIAL NO.	TITLE
096184	8/26/97	08/920,103	DUAL MODE CAVITY RESONATOR WITH COUPLING GROOVES
096200	9/2/97	08/922,687	DYNAMIC POWER ALLOCATION SYSTEM AND METHOD FOR MULTI-BEAM SATELLITE AMPLIFIERS
096205	9/27/96	08/721,882	CONTROL MOTION GYRO WITH VIBRATION ISOLATION
096224	11/08/96	08/745,590	METHOD FOR REDUCING ALPHA PLANE BIT MASK SIZE
096226	10/6/97	08/944,875	COLLISION DETECTION FOR PACKET-SWITCHED MULTIPLE-PATH COMMUNICATION SYSTEM
096227	7/17/97	08/896,103	LIGHTWEIGHT, LOW THERMAL EXPANSION MICROWAVE STRUCTURES AND METHOD OF MAKING THE SAME
096230	10/14/97	MLD	NICKEL/GOLD PLATING OF A COPPER-REFRACTORY METAL MATERIAL
096250	4/30/97	08/846,908	METHOD AND APPARATUS FOR ANNEALING ETCH RESISTORS
096254	2/21/97	08/803,936	METHOD AND SYSTEM FOR DETERMINING A POSITION OF A TARGET VEHICLE UTILIZING TWO-WAY RANGING
096274	11/08/96	08/745,585	EFFICIENT REPRESENTATION OF TEXTURE FOR GRAY SCALE ALPHA MAPS
096276	9/2/97	08/922,983	INTEGRATED INTERDIGITATED CAPACITOR AND METHOD
096279	11/08/96	08/745,568	HEIRACHICAL LOW LATENCY VIDEO COMPRESSION
096284	11/08/96	08/745,588	HIGH QUALITY REDUCED LATENCY TRANSMISSION OF VIDEO OBJECTS
096288	10/3/97	08/943,360	NOISE REDUCTION SYSTEMS AND METHODS
096308	6/20/97	08/879,456	BIPOLAR 6/CTION TRANSISTOR (BJT)- RESONANT TUNNELING DIODE (RTD) OSCILLATOR CIRCUIT AND METHOD
096310	2/21/97	08/803,934	GROUND BASED BEAM FORMING UTILIZING SYNCHRONIZED CODE DIVISION MULTIPLEXING
096313	10/15/97	MLD	CERAMIC-POLYMER COMPOSITE MATERIAL AND ITS USE IN MICROELECTRONICS PACKAGING
096315	10/14/97	MLD	METHOD AND SYSTEM FOR MAXIMIZING SATELLITE CONSTELLATION COVERAGE
096317	8/7/97	08/907,386	A WAVEGUIDE END LAUNCHER HAVING A MICROSTRIP PATCH FEED
096323	3/18/97	08/819,747	RADIATOR USING THERMAL CONTROL COATING
096324	6/23/97	08/880,283	TRACKING ANALOG-TO-DIGITAL CONVERTER
096330	2/21/97	08/803,937	METHOD AND SYSTEM FOR DETERMINING A POSITION OF A TRANSCEIVER UNIT UTILIZING TWO-WAY RANGING IN A POLYSTATIC SATELLITE CONFIGURATION
096345	12/18/96	08/768,736	SATELLITE CONTROL METHOD USING SINGLE SPECIES OF BIPROPELLANT
096351	7/9/97	08/891,418	METHOD AND APPARATUS FOR ESTIMATING ATTITUDE SENSOR BIAS IN A SATELLITE

COPY ASSIGNMENT

WHEREAS, I, as below named sole inventor (if only one name is listed below) or joint inventor (if plural names are listed below) of the city and state as stated below next to my name, have invented a(an) **METHOD AND SYSTEM OF MAXIMIZING SATELLITE CONSTELLATION COVERAGE** for which application for Letters Patent of the United States has been executed by me on or before this day, or (if the following is completed) filed on _____ as Serial No. 08/ ; and

WHEREAS, HE Holdings, Inc., doing business as Hughes Electronics, (hereinafter referred to as HUGHES ELECTRONICS), a Delaware Corporation, having its principal place of business in Los Angeles, California, is desirous of acquiring the entire and exclusive right, title and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged, I do hereby sell, assign and transfer to HUGHES ELECTRONICS, its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-in-part, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said HUGHES ELECTRONICS, its successors, assigns or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to HUGHES ELECTRONICS, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by HUGHES ELECTRONICS, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said Letters Patent in the United States and throughout the world for said invention and for perfecting, affirming, recording and maintaining the title of HUGHES ELECTRONICS, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in HUGHES ELECTRONICS, its successors, assigns or other legal representatives.

COPY

ASSIGNMENT

Page 2 of 2

PD-96315A

10/11/97

IN WITNESS WHEREOF, I have executed this instrument.

FULL NAME OF SOLE OR JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
Kar W. Yung	<i>K. W. Yung</i>	10/9/97
RESIDENCE (CITY AND STATE)		INVENTION AGREEMENT DATE
Torrance, California		December 3, 1979

FULL NAME OF SOLE OR JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
Donald C.D. Chang	<i>Donald C.D. Chang</i>	10/9/97
RESIDENCE (CITY AND STATE)		INVENTION AGREEMENT DATE
Thousand Oaks, California		September 11, 1978

STATE OF California)

SS:

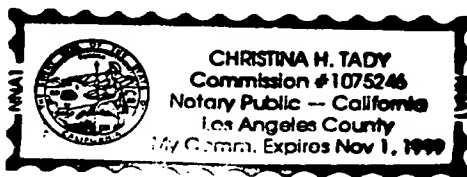
COUNTY OF Los Angeles)

On October 09, 1997 before me, Christina H. Tady, Notary

a Notary Public in and for said State, personally appeared Kar W. Yung and Donald C.D. Chang

☒ personally known to me or ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



Notary Public

Christina H. Tady

STATE OF _____)

SS:

COUNTY OF _____)

On _____ before me, _____

a Notary Public in and for said State, personally appeared _____

☐ personally known to me or ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public _____